

APPENDIX A
ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS
FOR THE HOSPITAL INSURANCE COST ESTIMATES*

The basic methodology and assumptions for alternative II-A and alternative II-B used in the estimates for the hospital insurance program are described in this appendix. These alternatives reflect two different levels of expectation of future performance of the economy. In addition, sensitivity testing of program costs under alternative sets of assumptions is presented.

1. PROGRAM COSTS

The principal steps involved in projecting the future costs of the hospital insurance program are (1) establishing the present cost of services provided to beneficiaries, by type of service, to serve as a projection base; (2) projecting increases in payment amounts for inpatient hospital services admissions under the program; (3) projecting increases in the cost of skilled nursing facility and home health agency services covered under the program; and (4) projecting increases in administrative costs. The major emphasis will be directed toward expenditures for inpatient hospital services, which account for approximately 95 percent of total benefits.

a. Projection Base

Beginning with hospital accounting years starting on or after October 1, 1983, the hospital insurance program will discontinue reim-

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bursing hospitals on the basis of reasonable cost, and will begin making prospectively determined payments to hospitals for admissions covered under the program. The payment rate for each admission will depend upon the Diagnosis Related Group (DRG) to which the admission belongs.

The transition from the cost-based system to the prospective payment system will be phased in over a period of four years. During the first two years of this period, the law requires that payments to hospitals, in the aggregate, be no more or less than they would have been under the reasonable cost reimbursement system. Thus, program costs during the first two years are estimated on the basis of the reasonable cost reimbursement system. In order to establish a suitable base from which to project the future costs of the program, the incurred reasonable cost of services provided must be reconstructed for the most recent period for which a reliable determination can be made. To do this, payments to providers must be attributed to dates of service, rather than to payment dates. In addition, the nonrecurring effects of any changes in regulations or administration of the program and of any items affecting only the timing and flow of payments to providers must be eliminated. As a result, the rates of increase in the incurred cost of the program differ from the increases in cash disbursement shown in tables 5 and 6.

The reasonable costs of covered services to beneficiaries are determined on the basis of provider cost reports. Payments to a provider initially are made on an "interim" basis; to adjust interim payments to the level of retroactively determined costs, a series of payments or recoveries

is effected through the course of cost settlement with the provider. The net amounts paid to date to providers in the form of cost settlements are known; however, the incomplete data available do not permit a precise determination of the exact amounts incurred during specific periods of time. Due to the time required to obtain cost reports from providers, to verify these reports, and to perform audits (where appropriate), final settlements have lagged behind the liability for such payments or recoveries by as much as several years for some providers. Hence, the final cost of the program has not been completely determined for the most recent years of the program, and some degree of uncertainty remains even for earlier years.

Additional problems are posed by changes in administrative or reimbursement policy which have a substantial effect on either the amount or incidence of payment. The extent and timing of the incorporation of such changes into interim payment rates and cost settlement amounts cannot be determined precisely.

The process of allocating the various types of payments made under the program to the proper incurred period--using incomplete data and estimates of the impact of administrative actions--presents difficult problems, the solution to which can be only approximate. Under the circumstances, the best that can be expected is that the actual incurred cost of the program for a recent period can be estimated within a few percent. This increases the projection error directly, by incorporating any error in estimating the base year into all future years.

b. Payments for Inpatient Hospital Costs

Beginning with hospital accounting years starting on or after October 1, 1983, the hospital insurance program will pay participating hospitals a prospectively determined amount for providing covered services to beneficiaries. The payment rate for each admission will depend upon the DRG to which the admission belongs.

For hospital accounting years beginning on or after October 1, 1985, the increase in the payment rate for each hospital admission is determined by the Secretary of Health and Human Services, with the advice of the Prospective Payment Assessment Commission, a special commission to be appointed to study and make recommendations with regard to the level of payments to hospitals. The law contemplates that the annual increase in the payment rate for each admission will be related to a hospital input price index, which measures the increase in prices for goods and services purchased by hospitals for use in providing care to hospital inpatients. It is anticipated that in most years the Secretary will recommend an increase in payment per admission equal to one percent plus the increase in the hospital input price index, although the law provides that the Secretary may select an alternative increase. Thus, the projections contained in this report are based on the assumption that for hospital accounting periods beginning on or after October 1, 1985, program payments to participating hospitals for each covered admission will be increased by one percent plus the increase in the hospital input price index.

Increases in aggregate payments for inpatient hospital care covered under the hospital insurance program can be analyzed into four broad categories:

(1) Labor factors - the increase in the hospital input price index which is attributable to increases in hospital workers' hourly earnings;

(2) Non-labor factors - the increase in the hospital input price index which is attributable to factors other than hospital workers' hourly earnings, such as the costs of energy, food, and supplies;

(3) Unit input intensity allowance - the increase in inpatient hospital costs per admission which are in excess of those attributable to increases in the hospital input price index; and

(4) Volume of services - the increase in total output of units of service (as measured by hospital admissions covered by the hospital insurance program).

It has been possible to isolate some of these elements and to identify their roles in previous hospital cost increases. Table A1 shows the values of the principal components of the increases for historical periods for which data are available and the projected trends used in the estimates. The following discussions apply to projections under both alternative II-A and alternative II-B unless otherwise indicated.

Increases in hospital workers' hourly earnings can be analyzed and projected in terms of the assumed increases in average wages in covered employment which underly the projections of contribution income for the

hospital insurance trust fund. Two factors account for the difference between increases in hospital workers' hourly earnings and wages in covered employment: (1) fluctuations in the general economy in average hours worked per year and (2) differences between hourly earnings increases in the general economy and in the hospital industry.

Increase in average wages in covered employment and average hourly earnings have generally moved together. However, the relationship has been affected by a long term trend towards fewer hours worked per year, as well as by fluctuations in the unemployment rate, with larger increases in the excess of hourly earnings over average wages generally associated with periods of high unemployment. This relationship is projected to continue. Hourly earnings and average wages in covered employment are generally projected to increase together with only slight deviations during the early years of the projection period.

For at least a decade preceding the beginning of the hospital insurance program, hospital workers' hourly earnings increased at a rate about 1.5 percent per year more rapidly than the rate of increase in the general economy. Since the beginning of the hospital insurance program, this differential has fluctuated widely, but has averaged between 1.5 and 2 percent. Several factors contributing to this differential can be identified, including (1) growth in third-party reimbursement of hospitals - through Medicare, Medicaid, and comprehensive private plans - which is likely to have weakened hospital resistance to wage demands; (2) increased proportions of highly trained and more highly paid personnel; (3) an increased degree of labor organization and activity; and (4) the fact that

hospital employees have historically earned less than similarly skilled workers in other industries. Over the short term, this differential is assumed to taper gradually to a modest level, eventually declining to zero near the end of the twenty-five year projection period.

Increases in hospital price input intensity, which are primarily the result of price increases for goods and services that hospitals purchase which do not parallel increases in the Consumer Price Index (CPI), are measured as the difference between the non-labor component of the hospital input price index and the CPI. For the ten years preceding the beginning of the hospital insurance program, hospital price input intensity averaged slightly more than one percent annually. Although the level has fluctuated erratically since the hospital insurance program began, the long term average has remained at about the same general level as before the program began, averaging about 1.2 percent during the last ten years. Hospital price input intensity is expected to rise slightly above the average level during calendar years 1983 and 1984, remain slightly over one percent through the year 2000, and decline to about one-half percent during the last few years of the projection period.

It is contemplated that future increases in payments to participating hospitals for covered admissions will be equal to one percent plus the increase in the hospital input price index. Thus, the unit input intensity allowance, as indicated in table A1, is assumed to equal one percent in all future years. However, it should be noted that the level of the unit input intensity allowance is completely within the discretion of the Secretary

of Health and Human Services and could vary significantly from the assumed value from year to year. For historical years, the unit input intensity allowance has been set at one percent for illustrative purposes, with historical increases in excess of one percent allocated to other sources. During the projection period, increases in inpatient hospital payments in any one year from other sources are expected to be small, except during 1984, 1985, and early 1986 when the requirement that prospective payment rates be set at a level which neither decreases nor increases aggregate payments to hospitals will have a substantial impact on the payment level. The long term average increase from other sources is expected to be close to zero. Under the prospective payment method, possible other sources of both relative increases and decreases in payments include (1) a shift to more or less expensive admissions (diagnosis related groups) due to changes in the demographic characteristics of the covered population and (2) adjustments in the relative payment levels for various diagnosis related groups or addition/deletion of diagnosis related groups in response to changes in technology. As experience under the prospective payment system develops and is analyzed, it may be possible to establish a predictable trend for this component.

Other factors which contribute to increases in payments for inpatient hospital services include increases in units of service as measured by increases in inpatient hospital admissions covered under the hospital insurance program. Increases in admissions are attributable both to

increases in enrollment under the hospital insurance program and to increases in admission incidence (admissions per beneficiary). The projection assumes, over the long range, changes in both enrollment and admission incidence only due to the effects of demographic shifts in the population. The historical and projected increases in enrollment reflect the more rapid increase in the population aged 65 and over than in the total population of the United States, and beginning in mid-1973, the coverage of certain disabled beneficiaries and persons with end-stage renal disease. Increases in the enrollment are expected to continue, reflecting a continuation of the demographic shift into categories of the population which are eligible for hospital insurance protection. In addition, increases in the average age of beneficiaries lead to higher levels of admission incidence.

c. Skilled Nursing Facility and Home Health Agency Costs

Historical experience with the number of days of care covered in skilled nursing facilities under the hospital insurance program has been characterized by wide swings. The number of covered days dropped very sharply in 1970 and continued to decline through 1972. This was the result of strict enforcement of regulations separating skilled nursing from custodial care. Because of the small fraction of nursing home care covered under the program, this reduction primarily reflected the determination that Medicare was not liable for payment rather than reduced usage of services. The 1972 amendments extended benefits to persons who require

skilled rehabilitative services regardless of their need for skilled nursing services (the former prerequisite for benefits). This change and subsequent related changes in regulations have resulted in significant increases in the number of services covered by the program. Recent data has indicated a decline in utilization of these services through 1980. Only modest increases are projected in skilled nursing utilization thereafter.

Increases in the average cost per day in skilled nursing facilities under the program are caused principally by increasing payroll costs for nurses and other skilled labor required. Projected rates of increase are assumed to be about the same as increases in general wages throughout the 25-year projection period. The resulting increases in the cost of skilled nursing facility services are shown in table A2.

Program experience with home health agency costs has shown a generally upward trend. The number of visits has fluctuated somewhat from year to year, with very sharp increases appearing in the last four years. Relatively large increases are assumed for the next few years, followed by a projected pattern of increases similar to that for skilled nursing facilities. Cost per service is assumed to increase at about the same rate as increases in general wages. The resulting home health agency cost increases are shown in table A2.

d. Administrative Expenses

The costs of administering the hospital insurance program have remained relatively small, in comparison with benefit amounts, throughout

the history of the program. The ratio of administrative expenses to benefit payments has generally fallen within the range of 1 to 3 percent. The short-range projection of administrative cost is based on estimates of workloads and approved budgets for intermediaries and the Health Care Financing Administration. In the long range, administrative cost increases are based on assumed increases in workloads, primarily due to growth and aging of the population, and on assumed unit cost increases of 2 percent less than the increases in average wages shown in table A1.

2. FINANCING

In order to analyze costs and to evaluate the financing of a program supported by payroll taxes, program costs must be compared on a year-by-year basis with the taxable payroll which provides the source of income for these costs. Since the vast majority of total program costs are related to insured beneficiaries and since general revenue appropriations and premium payments are available to support the uninsured segments, the remainder of this report will focus on the financing for insured beneficiaries.

a. Taxable Payroll

Taxable payroll increases can be separated into a part due to increases in covered wages and a part due to increases in the number of covered workers. The taxable payroll projection used in this report is based on assumptions consistent with those used in projecting experience under the OASDI program. Increases in taxable payroll assumed for this report are shown in table A2.

b. Relationship Between Program Costs and Taxable Payroll

The single most meaningful measure of program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. If the rates of increase in both series are the same, a level tax rate over time will be adequate to support the program. However, to the extent that program costs increase more rapidly than taxable payroll, a schedule of increasing tax rates will be required to finance the system over time. Table A2 shows the resulting increases in program costs relative to taxable payroll over the 25-year projection period. These relative increases reduce gradually to an ultimate level of approximately 2.1 and 2.3 percent per year for alternatives II-A and II-B, respectively. The result of these increases over the duration of the projection period is a continued increase in the year-by-year ratios of program expenditures to taxable payroll, as shown in table A3.

3. SENSITIVITY TESTING OF COSTS UNDER ALTERNATIVE ASSUMPTIONS

Over the past 20 years, aggregate inpatient hospital costs for Medicare beneficiaries have increased substantially faster than increases in average wages and prices in the general economy. Table A1 shows the experience of the HI program over the past 11 years. As mentioned earlier, the HI program will make payments to hospitals in the future on a prospective basis. The prospective payments provisions as passed by Congress have made the outlays of the HI program potentially less vulnerable to excessive

rates of growth in the hospital industry. Thus, the trends in aggregate HI inpatient hospital costs shown in the historical section of table A1 have little relation to the projected HI inpatient hospital payments. However, there is some uncertainty in projecting HI expenditures due to the uncertainty of the underlying economic assumptions and utilization increases. In addition, there is some uncertainty in projecting HI inpatient hospital payments due to the Secretary of Health and Human Services' discretion in setting the payment levels to hospitals.

In view of the uncertainty of future cost trends, projected costs for the hospital insurance program have been prepared under four alternative sets of assumptions. A summary of the assumptions and results is shown in table A3. The sets of assumptions labeled "Alternative II-A and Alternative II-B" form the basis for the detailed discussion of hospital cost trends and resulting program costs presented throughout this report. They represent intermediate sets of cost increase assumptions, compared with the lower cost and more optimistic alternative I and the higher cost and less optimistic alternative III. Increases in the economic factors (average wages and CPI) for the four alternatives are consistent with those underlying the OASDI report.

As noted earlier, the single most meaningful measure of hospital insurance program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. The extent to which program cost increases exceed

increases in taxable payroll will determine how steeply tax rates must increase to finance the system over time.

Under both sets of intermediate assumptions, program costs are projected ultimately to increase slightly more than 2 percent faster than increases in taxable payroll. Program expenditures, which are currently about 2 3/4 percent of taxable payroll, increase to a level of about 5 percent by the year 2005 under both alternatives II-A and II-B. Hence, if all of the projection assumptions are realized over time, hospital insurance tax rates by the end of the 25-year period will have to be substantially higher than those provided in the present financing schedule (2.9 percent of taxable payroll, for 1986 and later).

Alternatives I and III contain assumptions which result in program costs increasing, relative to taxable payroll increases, approximately 2 percent less rapidly and 2 percent more rapidly, respectively, than the results under both sets of intermediate assumptions. Under alternative I, program costs ultimately increase .4 percent more rapidly than increases in taxable payroll. By the year 2005, program expenditures under this alternative would be about 3.4 percent of taxable payroll. Hence, hospital insurance tax rates required by the end of the valuation period would be greater than those currently scheduled, even under the optimistic alternative I assumptions. Under alternative III, program costs ultimately increase 4.3 percent more rapidly than increases in taxable payroll. The result of this differential is a level of program expenditures in the year 2005 which is 7.7 percent of taxable payroll, about 4.8 percent higher than the 2.9 percent tax rate currently scheduled.

TABLE A1.--COMPONENTS OF HISTORICAL AND PROJECTED INCREASES IN HI INPATIENT HOSPITAL PAYMENTS
(Percent)

Calendar Year	Labor				Non-Labor				Units of Service			HI Inpatient Hospital Costs	
	Wages in Covered Employment	Hours Worked Per Year & Other Factors	Hospital Hourly Earnings Level	Hospital Hourly Earnings	Hospital Price Input CPI	Non-Labor Price Input Intensity	Non-Labor Hospital Prices	Input Price Index	Unit Input Intensity Allowance	HI Enrollment	Admission Incidence		Other Sources
Historical Data:													
1972	7.3%	-0.8%	0.4%	6.8%	3.3%	1.2%	4.5%	5.9%	1.0%	1.6%	3.0%	-0.9%	10.9%
1973	6.9	-0.7	-0.7	5.5	6.2	1.7	8.0	6.5	1.0	6.2	-2.4	4.5	16.4
1974	7.4	0.6	-0.3	7.7	11.0	2.9	14.2	10.4	1.0	6.6	8.7	-4.2	23.6
1975	6.6	1.6	1.5	9.9	9.1	2.8	12.2	10.9	1.0	3.2	1.4	4.6	22.5
1976	8.2	-0.9	0.9	8.2	5.8	2.4	8.3	8.2	1.0	2.9	0.8	5.1	19.0
1977	8.0	-0.5	-0.4	7.1	6.5	1.3	7.9	7.4	1.0	3.0	1.4	3.6	17.3
1978	8.2	0.0	0.2	8.4	7.6	0.3	7.9	8.2	1.0	2.7	1.2	1.2	14.8
1979	8.8	-0.7	0.4	8.4	11.1	0.0	11.1	9.6	1.0	2.7	1.7	0.8	16.4
1980	8.6	0.4	1.5	10.6	13.5	-0.6	12.8	11.6	1.0	2.1	4.7	-0.1	20.3
1981	8.8	0.3	2.9	12.3	10.2	0.8	11.1	11.8	1.0	1.8	3.0	2.8	21.6
1982	5.6	1.2	3.8	11.0	6.0	0.9	7.0	9.3	1.0	2.0	2.3	2.2	17.6
Projection:													
Alternative II-A													
1983	4.3	1.0	1.8	7.2	2.7	1.4	4.1	5.9	1.0	1.4	1.3	3.1	13.2
1984	5.0	1.0	1.8	7.9	3.6	1.8	5.5	6.9	1.0	2.0	0.9	1.3	12.4
1985	4.8	0.6	1.8	7.3	4.0	1.3	5.4	6.5	1.0	1.8	1.1	0.6	11.3
1986	5.1	0.2	1.8	7.2	3.6	1.3	4.9	6.3	1.0	1.9	1.1	0.0	10.5
1987	5.2	0.2	1.8	7.3	3.2	1.2	4.4	6.1	1.0	2.0	1.0	0.1	10.4
1988	5.0	0.2	1.8	7.1	3.0	1.2	4.2	6.0	1.0	1.9	1.1	0.0	10.2
1989	5.3	0.2	1.3	6.9	3.0	1.2	4.2	5.9	1.0	1.8	1.2	0.0	10.1
1990	5.5	0.2	1.3	7.1	3.0	1.2	4.2	6.0	1.0	1.8	1.2	0.0	10.2
1995	5.0	0.0	1.0	6.1	3.0	1.0	4.0	5.4	1.0	1.2	1.3	0.0	9.1
2000	5.0	0.0	0.5	5.5	3.0	1.0	4.0	5.0	1.0	0.8	1.3	0.1	8.3
2005	5.0	0.0	0.0	5.0	3.0	0.5	3.5	4.5	1.0	1.2	1.0	0.0	7.8
Alternative II-B													
1983	4.6	1.0	1.8	7.6	3.1	1.4	4.5	6.3	1.0	1.4	1.3	2.7	13.2
1984	4.6	1.0	1.8	7.5	4.4	1.8	6.3	7.0	1.0	2.0	0.9	1.3	12.6
1985	5.5	0.6	1.8	8.0	5.3	1.3	6.7	7.5	1.0	1.8	1.1	0.6	12.4
1986	5.6	0.2	1.8	7.7	4.8	1.3	6.2	7.1	1.0	1.9	1.1	0.0	11.4
1987	5.7	0.2	1.8	7.8	4.4	1.2	5.7	6.9	1.0	2.0	1.0	0.0	11.2
1988	5.4	0.2	1.8	7.5	4.1	1.2	5.3	6.6	1.0	1.9	1.1	0.0	10.9
1989	5.4	0.2	1.3	7.0	4.0	1.2	5.2	6.3	1.0	1.8	1.2	0.0	10.5
1990	5.6	0.2	1.3	7.2	4.0	1.2	5.2	6.4	1.0	1.8	1.2	0.0	10.6
1995	5.5	0.0	1.0	6.6	4.0	1.0	5.0	6.0	1.0	1.2	1.3	0.0	9.7
2000	5.5	0.0	0.5	6.0	4.0	1.0	5.0	5.6	1.0	0.8	1.3	0.1	8.9
2005	5.5	0.0	0.0	5.5	4.0	0.5	4.5	5.2	1.0	1.2	1.0	0.1	8.6

TABLE A2.--RELATIONSHIP BETWEEN INCREASES IN TOTAL HI PROGRAM COSTS AND INCREASES IN TAXABLE PAYROLL 1/
(Percent)

<u>Calendar year</u>	<u>Inpatient hospital 2/</u>	<u>Skilled nursing facility 3/</u>	<u>Home health agency 3/</u>	<u>Weighted average</u>	<u>HI administrative costs 3/</u>	<u>Total HI program costs 3/</u>	<u>HI taxable payroll</u>	<u>Ratio of costs to payroll 4/</u>
Alternative II-A								
1983	13.7%	9.7%	19.5%	13.9%	4.2%	13.8%	10.4%	3.0%
1984	12.3	8.0	13.4	12.6	6.3	12.6	12.7	-0.1
1985	11.5	9.5	11.4	11.6	5.9	11.5	7.6	3.7
1990	10.3	8.6	8.7	10.3	6.7	10.2	6.4	3.6
1995	9.1	7.0	7.2	9.1	5.7	9.0	5.8	3.0
2000	8.3	6.5	6.7	8.3	5.2	8.2	6.1	2.1
2005	7.9	6.1	6.5	7.8	5.2	7.8	5.6	2.1
Alternative II-B								
1983	13.7	9.7	19.5	13.9	4.2	13.8	10.4	3.0
1984	12.5	7.8	13.4	12.8	5.9	12.7	12.0	0.6
1985	12.6	9.5	11.4	12.6	6.6	12.5	8.2	4.0
1990	10.8	8.7	8.6	10.6	6.7	10.6	6.5	3.9
1995	9.8	7.5	7.6	9.7	6.1	9.6	6.2	3.3
2000	8.9	6.9	7.2	8.9	5.7	8.8	6.5	2.2
2005	8.6	6.7	7.0	8.5	5.8	8.5	6.1	2.3

- 1/ Percent increase in year indicated over previous year.
- 2/ This column differs slightly from the last column of table A1, since table A1 includes all persons eligible for HI protection while this table excludes noninsured persons.
- 3/ Costs attributable to insured beneficiaries only. Benefits and administrative costs for noninsured persons are financed through general revenue transfers and premium payments rather than through payroll taxes.
- 4/ Percent increase in the ratio of program expenditures to taxable payroll. This is equivalent to the differential between the increase in program costs and the increase in taxable payroll.

NOTE: Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income in 1983, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

TABLE A3.--SUMMARY OF ALTERNATIVE COST PROJECTIONS FOR THE HOSPITAL INSURANCE PROGRAM
(Percent)

Calendar year	Increases in aggregate HI inpatient hospital payments 1/				Changes in the relationship between costs and payroll 1/			Expenditures as a percent of taxable payroll
	Average wages	CPI	Other factors 2/	Total	Program costs 3/	Taxable payroll	Ratio of costs to payroll	
ALTERNATIVE I								
1983	4.3%	2.5%	9.4%	13.2%	13.8%	10.6%	3.0%	2.76%
1984	5.2	3.3	6.8	11.5	11.7	13.2	-1.4	2.72
1985	5.3	3.7	5.6	10.5	10.8	8.5	2.1	2.77
1990	5.1	2.0	5.1	9.2	9.2	7.1	1.9	3.04
1995	4.5	2.0	3.6	7.2	7.2	5.7	1.3	3.24
2000	4.5	2.0	2.5	6.2	6.2	5.9	0.3	3.33
2005	4.5	2.0	2.0	5.7	5.7	5.2	0.4	3.40
ALTERNATIVE II-A								
1983	4.3	2.7	9.2	13.2	13.8	10.4	3.0	2.77
1984	5.0	3.6	7.6	12.4	12.6	12.7	-0.1	2.75
1985	4.8	4.0	6.5	11.3	11.5	7.6	3.7	2.85
1990	5.5	3.0	5.4	10.2	10.2	6.4	3.6	3.36
1995	5.0	3.0	4.6	9.1	9.0	5.8	3.0	3.93
2000	5.0	3.0	3.8	8.3	8.2	6.1	2.1	4.40
2005	5.0	3.0	3.3	7.8	7.8	5.6	2.1	4.88
ALTERNATIVE II-B								
1983	4.6	3.1	8.9	13.2	13.8	10.4	3.0	2.77
1984	4.6	4.4	7.7	12.6	12.7	12.0	0.6	2.77
1985	5.5	5.3	6.6	12.4	12.5	8.2	4.0	2.88
1990	5.6	4.0	5.4	10.6	10.6	6.5	3.9	3.46
1995	5.5	4.0	4.5	9.7	9.6	6.2	3.3	4.05
2000	5.5	4.0	3.8	8.9	8.8	6.5	2.2	4.58
2005	5.5	4.0	3.5	8.6	8.5	6.1	2.3	5.13
ALTERNATIVE III								
1983	3.9	3.3	9.2	13.2	13.8	9.3	4.1	2.80
1984	4.6	6.4	7.6	13.4	13.4	10.6	2.6	2.86
1985	7.4	7.7	7.9	16.0	15.9	9.5	5.8	3.02
1990	6.2	5.0	7.3	13.5	13.3	7.2	5.7	3.96
1995	6.0	5.0	6.2	12.2	12.1	6.5	5.3	5.08
2000	6.0	5.0	5.5	11.4	11.3	6.9	4.1	6.29
2005	6.0	5.0	5.2	11.1	11.0	6.5	4.3	7.74

1/ Percent increase in the year indicated over the previous year.

2/ Other factors include hospital hourly earnings, hospital price input intensity, unit input intensity allowance and units of service as measured by admission.

3/ Includes cost attributable to insured beneficiaries only.

NOTE: Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income in 1983, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

APPENDIX B
SEVENTY-FIVE YEAR PROJECTIONS

Long-range cost estimates for the hospital insurance program have been made, since the beginning of the program, for a 25-year period. The degree of uncertainty concerning future HI program costs, relative to the remainder of the economy, is sufficiently great as to limit the usefulness of projections beyond 25 years. However, even a valuation period as long as 25 years fails to present fully the future contingencies that reasonably may be expected, such as the impact of the demographic shift after the turn of the century which is discussed in the OASDI report. The 75-year projections presented here give a general indication of the magnitude of the cost of financing the HI program during the next 75 years. Costs beyond the 25-year projection period are based upon the assumption that costs per unit of service will increase at the same rate as wages increase.

TABLE B1.--COST AND TAX RATES OF THE
HOSPITAL INSURANCE PROGRAM, EXPRESSED AS
A PERCENT OF TAXABLE PAYROLL

<u>Calendar Year</u>	<u>Expenditures Under the Program 1/</u>	<u>Tax Rate Scheduled in the Law 2/</u>	<u>Difference</u>
1983	2.77%	2.60%	-0.17%
1985	2.88	2.70	-0.18
1990	3.46	2.90	-0.56
1995	4.05	2.90	-1.15
2000	4.58	2.90	-1.68
2005	5.13	2.90	-2.23
2010	5.61	2.90	-2.71
2015	6.22	2.90	-3.32
2020	7.00	2.90	-4.10
2025	7.89	2.90	-4.99
2030	8.65	2.90	-5.75
2035	9.10	2.90	-6.20
2040	9.29	2.90	-6.39
2045	9.32	2.90	-6.42
2050	9.35	2.90	-6.45
2055	9.37	2.90	-6.47

1/ Costs attributable to insured beneficiaries only. Benefits and administrative expenses for noninsured persons are financed through general revenue transfers and premium payments rather than through payroll taxes.

2/ Rates for employers and employees combined.

APPENDIX C
DETERMINATION AND ANNOUNCEMENT
OF THE INPATIENT HOSPITAL DEDUCTIBLE FOR 1983*

Under the authority in section 1831(b)(2) of the Social Security Act (42 U.S.C. 1395e(b)(2)), the Secretary has determined that the Medicare inpatient hospital deductible for 1983 will be \$304.

Section 1813 provides for an inpatient hospital deductible and certain coinsurance amounts to be deducted from the amount payable by Medicare for inpatient hospital services and extended care services furnished an individual. Section 1813(b)(2) requires the Secretary of HHS to determine and publish, between July 1 and October 1 of each year, the amount of the inpatient hospital deductible applicable for the following calendar year.

Because the coinsurance amounts in section 1813 are fixed percentages of the inpatient hospital deductible for services furnished in the same calendar year, the increase in the deductible has the effect of also increasing the amount of coinsurance the Medicare beneficiary must pay. Thus, for inpatient hospital services or extended care services furnished in 1983, the daily coinsurance of the 61st through 90th days of hospitalization ($1/4$ of the inpatient hospital deductible) will be \$76; the daily coinsurance for lifetime reserve days ($1/2$ of the inpatient hospital deductible) will be \$152; and the daily coinsurance for the 21st through the 100th days of extended care services in a skilled nursing facility ($1/8$ of the inpatient hospital deductible) will be \$38.

*This statement was published in the Federal Register for October 1, 1982, (Vol. 47, No. 191, p. 43631).

Under the formula in the law, the deductible for calendar year 1983 must be equal to \$45 multiplied by the ratio of (1) the current average per diem rate for inpatient hospital services for calendar year 1981 to (2) the average per diem rate for such services in 1966. The amount so determined is rounded to the nearest multiple of \$4. The average per diem rates are based on the amounts paid to participating hospitals by Medicare for inpatient services to insured individuals, plus the deductible and coinsurance amounts.

The average per diem rate for a calendar year is computed from the inpatient hospital bills for all beneficiaries. Each bill shows the number of inpatient days of care and the interim cost (the sum of interim reimbursement, deductible, and coinsurance). The data are summarized for each year, and an average interim per diem rate computed that accurately reflects interim costs on an accrual basis.

In order to reflect the change in the average per diem hospital cost under the program properly, the average interim cost must be adjusted to show the effect of final cost settlements made with each participating hospital after the end of its accounting year. The final settlements adjust the interim payment to the hospital to the actual full cost of providing covered services to beneficiaries. To the extent that the ratio of final cost to interim cost for 1981 differs from the ratio of final costs to interim costs for 1966, the increase in average interim per diem costs will not coincide with the increase in actual cost that has occurred.

The current average interim per diem rate for inpatient hospital services for calendar year 1981, based on tabulated interim costs, is \$258.79; the corresponding amount for 1966 is \$37.92. The averages are based on approximately 103 million days of hospitalization in 1981 and 30 million days in 1966 (last 6 months of the year). The ratio of final cost to interim cost is approximately 1.047 for 1981 and 1.055 for 1966. Thus, the inpatient hospital deductible is $\$45 \times (258.79 \times 1.047) / (37.92 \times 1.055) = \304.78 , which is rounded to \$304.

IMPACT ANALYSES

The inpatient hospital deductible and coinsurance amounts for the calendar year 1983 will be 17 percent higher than the 1982 amounts. The inpatient hospital deductible increased from \$260 to \$304; the daily coinsurance for the 61st through 90th days of hospitalization increased from \$65 to \$76; the daily coinsurance for lifetime reserve days increased from \$130 to \$152; and the daily coinsurance for the 21st through 100th days of extended care services in a skilled nursing facility increased from \$32.50 to \$38.

The estimated cost to beneficiaries due to these increases is \$450 million. This amount is based on an estimated 7.5 million beneficiaries who will have 8.5 million benefit periods and use 4.9 million coinsurance days and 1.2 million lifetime reserve days in 1983.

HCFA computed the 1983 inpatient hospital deductible and coinsurance amounts in the same manner as in previous years as required by section 1813 of the Act. The costs associated with this notice are the result of legislative requirements implemented by this notice. Since this notice merely announces amounts required by legislation and is not a proposed rule or final rule issued after a proposal, no analysis is required under Executive Order 12291 or the Regulatory Flexibility Act.

Dated: September 27, 1982

Richard S. Schweiker
Secretary

APPENDIX D

DETERMINATION AND ANNOUNCEMENT OF
THE HOSPITAL INSURANCE MONTHLY PREMIUM RATE FOR THE UNINSURED AGED,
FOR THE 12-MONTH PERIOD BEGINNING JULY 1, 1983*

Under the authority in section 1818(d)(2) of the Social Security Act (42 U.S.C. 1395i2(d)(2)), I have determined that the monthly Medicare hospital insurance premium for the uninsured aged for the 12 months beginning July 1, 1983, is \$132.

Section 1818 of the Social Security Act provides for voluntary enrollment in the hospital insurance program (Part A of Medicare), subject to payment of a monthly premium, of certain persons age 65 and older who are uninsured for social security or railroad retirement benefits and do not otherwise meet the requirements for entitlement to hospital insurance. (Persons insured under the Social Security or Railroad Retirement Acts need not pay premiums for hospital insurance.)

Section 1818(d)(2) of the Act requires the Secretary to determine and publish, during the last quarter of each calendar year, the amount of the monthly Part A premium for voluntary enrollment for the 12-month period beginning with the following July 1. The formula specified in this section also requires that, for the period beginning July 1, 1983, the 1973 base year premium (\$33) be multiplied by the ratio of (1) the 1983 inpatient hospital deductible to (2) the 1973 inpatient hospital deductible, rounded

*This statement was published in the Federal Register for December 27, 1982, (Vol.47, No. 248, p. 57574). However, Public Law 98-21 subsequently provided that the monthly premium of \$113 for the uninsured aged, which applied for the 12 months beginning July 1, 1982, continue to apply until December 31, 1983. The monthly premium will increase on a calendar year basis thereafter.

to the nearer multiple of \$1 or, if midway between multiples of \$1, to the next higher multiple of \$1.

Under section 1813(b)(2) of the Act, the 1983 inpatient hospital deductible was determined to be \$304. (See 47 FR 43631, October 1, 1982.) The 1973 deductible was actuarially determined to be \$76, although the 1973 deductible was actually promulgated to be only \$72, to comply with a ruling of the Cost of Living Council. (See 37 FR 21452, October 11, 1972.) The monthly premium for the 12-month period beginning July 1, 1983, has been calculated using the \$76 deductible for 1973, since this more closely satisfies the intent of the law. Thus, the monthly hospital insurance premium is $\$33 \times (304/76) = \132 .

IMPACT ANALYSES

The monthly hospital insurance premium for the uninsured aged for the 12-month period beginning July 1, 1983, will increase to \$132. That amount is 17 percent higher than the \$113 monthly premium amount for the previous 12-month period.

The estimated cost of this increase to the approximately 24 thousand enrollees who do not otherwise meet the requirements for entitlement to hospital insurance will be about \$5 million.

Because this notice merely announces an amount required by the formula specified in section 1818(d)(2) of the Act, and does not alter any regulation or policy, no analyses under Executive Order 12291 or the Regulatory Flexibility Act, Public Law 96-354, are required.

Dated: December 17, 1982

Richard S. Schweiker
Secretary

APPENDIX E

STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the methodology used herein is based upon sound principles of actuarial practice and (2) all the assumptions used and the resulting cost estimates are in the aggregate reasonable for the purpose of evaluating the actuarial and financial status of the Federal Hospital Insurance Trust Fund, taking into account the experience and expectations of the program.



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